

REMARKS

STATUS OF THE CLAIMS

Applicants have amended the claims to better capture the envisioned commercial embodiments, and assert that the claim amendments render moot the rejections and objections. Applicants assert that the amendments to the claims do not introduce new matter.

CLAIM REJECTIONS UNDER 35 USC § 101

The Office Action of 27 May 2010 rejected claims 4, 47, 52, 54, 57-59 and 70 under 35 U.S.C. § 101, because the claimed invention allegedly is directed to non-statutory subject matter. Applicants respectfully disagree. Nonetheless, Applicants have amended claims 4 and 70 to recite that the recombinase and/or catalytic domain are isolated. Applicants assert that the claim amendments render moot the rejection under 35 U.S.C. § 101. Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 101.

CLAIM REJECTIONS UNDER 35 USC § 102

The Office Action of 27 May 2010 rejected claims 4, 52, 59, 67 and 70 under 35 U.S.C. § 102, because Sarkis *et al.* allegedly anticipates the listed claims. Applicants respectfully disagree. Applicants have amended claim 70 to better capture the envisioned commercial embodiments and assert that the amendments to the claim(s) render moot the anticipation rejection. Specifically, Sarkis *et al.* does not teach the specifically recited mutations that the claimed catalytic domain is required to have. Accordingly, Sarkis *et al.* does not anticipate the currently claimed invention. Applicants respectfully request reconsideration and withdrawal of the anticipation rejection.

CLAIM REJECTIONS UNDER 35 USC § 103

The Office Action of 27 May 2010 rejected claim 54 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sarkis *et al.* and Hughes *et al.* Applicants respectfully disagree. Applicants have amended the claims to better capture the envisioned commercial embodiments and assert that the amendments to the claim(s) render moot the obviousness rejection. Specifically, the combination of Sarkis *et al.* and Hughes *et al.* does not teach the specifically recited mutations that the claimed catalytic domain is required to have. Among other things, the claimed invention no longer recites a mutation at a position corresponding to E124 of SEQ ID NO:2, whereas Sarkis *et al.*, specifically teaches

this mutation. Moreover, there is nothing of record that would indicate that one of skill in the art would have been motivated to pick and choose the exact combination of mutations that is recited in the claimed invention, *i.e.*, to combine the mutations recited in Sarkis *et al.* and Hughes *et al.*, in addition to removing the E124 mutation. Even if one of skill had been motivated to combine Sarkis *et al.* or Hughes *et al.*, there would have been no reasonable expectation of success that the combination of mutations recited in the references would have resulted in a functional catalytic domain. Accordingly, neither Sarkis *et al.* nor Hughes *et al.*, alone or in combination, render obvious the currently claimed invention. Applicants respectfully request reconsideration and withdrawal of the obviousness rejection.

CONCLUSION

Applicants have amended the claims to better capture the envisioned commercial embodiments and assert that the claim amendments render moot the outstanding rejections.

Should the Examiner believe that further discussion of any remaining issues would advance the prosecution, he or she is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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